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EXAMINER	
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ART UNIT	**PAPER NUMBER**
3609	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,717	KIM, YONG-KEUN	
	Examiner	Art Unit	
	Christopher J. Darner	3609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 23, 29, and 33 are objected to because of the following informalities: The preamble recites claiming the first and second reinforcing bar and the reinforcing bar coupler. The body of the claims 23-38 claim the reinforcing bar coupler. Appropriate correction is required.

2. Claim 23 and 29 are objected to because of the following informalities: Grammar in line 2 which reads "...overlapped first and second reinforcing bar (1, 1a) each other." Appropriate correction is required.

3. Claim 24, 32, and 34 are objected to because of the following informalities: Grammer in line 5 which reads "...having same slope for smoothly mating each other." Appropriate correction is required.

4. Claim 25 is objected to because of the following informalities: Grammer in lines 2-3 which reads "...said base sleeve (2, 2b) have same that of the semi-annular ribs (12)." Appropriate correction is required.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claim 33 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,860,672 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because Kim discloses the claimed invention except for the cover sleeve. Rather, Kim discloses a cylindrical sleeve surrounding the entire bar. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to separate the base sleeve and the cover sleeve instead of one integral cylindrical sleeve, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 33, 34, 35, 36, and 37 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent # 6,860,672) also published as WO021064907.

9. With respect to claim 33, Kim teaches first and second reinforcing bar (1) including a plurality of semi-annular ribs (13) and longitudinal ribs (12) in Figure 1, reinforcing bar (1).

Kim teaches a base sleeve (2) forming a semi-cylindrical shaped cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt at column 8, lines 44-46. Kim teaches an inner surface of said base sleeve forming a plurality of semi-annular grooves for fitting the semi-annular ribs and semi-cylindrical ridges for seating the first and second reinforcing bar at column 8, lines 46-52. Kim teaches a pair of locking parts (24) along both edges of lateral walls at column 4, lines 18-20.

Kim discloses the claimed invention except for the cover sleeve. Rather, Kim discloses a cylindrical sleeve surrounding the entire bar. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to separate the base sleeve and the cover sleeve instead of one integral cylindrical sleeve, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. Nerwin v. Erlichman, 168 USPQ 177, 179.

Kim teaches a wedge (4) having gradually decreasing thickness along with the axial direction, and a pair of locking sections along with both edges for firmly coupling the first and second reinforcing bar as axially slide advancing into said base sleeve at column 8, lines 59-62.

With respect to claim 34, Kim teaches a reinforcing bar coupler wherein said locking parts of the base sleeve are integrally formed a right-triangle shaped edge with inwardly slanted surfaces (21) at column 4, lines 21-24.

Kim teaches said locking sections of the wedge are integrally formed a right-triangle shape groove (45) with outwardly slanted surfaces, both slanted surfaces having same slope for smoothly mating each other and press-bonding the first and second reinforcing bars at column 5, lines 5-11.

With respect to claim 35, Kim teaches a reinforcing bar coupler wherein said locking parts (24) of the base sleeve are formed to taper down from both end openings to center, a pair of the wedge are inserted from both end openings of the base sleeve for press-bonding the cover sleeve and the first and second reinforcing bars together at column 10, lines 16-28.

With respect to claim 36, Kim teaches a reinforcing bar coupler wherein said base sleeve (2) and said cover sleeve (3) form a space slightly deeper than the semi-annular grooves at their center portion for resting the ends of the butted first and second reinforcing bar at column 9, lines 5-9.

With respect to claim 37, Kim teaches a reinforcing bar coupler wherein an overall length of said base sleeve (2) is a half interval of the semi-annular ribs shorter than that of said cover sleeve at column 4, lines 30-33 and lines 39-41. Kim teaches a half of semi-annular groove (45) formed at mouth of the cover sleeve at column 5, lines 8-10. Kim teaches a set of serrations formed at one end portion of the flat top surface (34) of the cover sleeve at column 4, lines 46-47. Kim teaches said wedge (4) forming a

flat bottom surface (41) for contacting with said flat top surface of the cover sleeve (34) at column 4, lines 59-61. Kim teaches a set of serrations formed at one end portion of the flat bottom surface (42) of said wedge at column 4, lines 63-65. Kim teaches more than one groove (45) formed on said flat bottom surface along with axial direction, and a scale formed at outer surface at column 5, lines 4-8.

10. Claim 23, 24, 25, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent # 6,860,672) in view of Kunoki (U.S Patent # 5,127,763).

With respect to claim 23, Kim teaches a first and second reinforcing bar (1) including a plurality of semi-annular ribs (13) and longitudinal ribs (12) in Figure 1, reinforcing bar (1).

Kim does not teach a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt. Kunoki teaches a base sleeve (joint) forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt in Figure 2A. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt as taught by Kunoki in order to increase the shear strength of the joint.

Kim discloses an inner surface of said base sleeve (2) forming a plurality of semi-annular grooves for fitting the semi-annular ribs and semi-cylindrical ridges for seating

the first and second reinforcing bar at column 8, lines 46-52. Kim discloses a pair of locking parts (24) along both edges of lateral walls at column 4, lines 18-20.

Kim discloses the claimed invention except for the cover sleeve. Rather, Kim discloses a cylindrical sleeve surrounding the entire bar. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to separate the base sleeve and the cover sleeve instead of one integral cylindrical sleeve, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. Nerwin v. Erlichman, 168 USPQ 177, 179.

Kim teaches a wedge (4) having gradually decreasing thickness along with the axial direction, and a pair of locking sections along with both edges for firmly coupling the first and second reinforcing bar as axially slide advancing into said base sleeve at column 8, lines 59-62.

With respect to claim 24, Kim teaches a reinforcing bar coupler wherein said locking parts of the base sleeve are integrally formed a right-triangle shaped edge with inwardly slanted surfaces (27) at column 4, lines 21-24. Kim teaches said locking sections of the wedge (41) are integrally formed a right-triangle shape groove with outwardly slanted surfaces, both slanted surfaces having same slope for smoothly mating each other and press-bonding the first and second reinforcing bars at column 4, lines 59-63.

With respect to claim 25, Kim teaches a reinforcing bar coupler wherein intervals of the semi-annular grooves and semi-cylindrical ridges (21) of said base sleeve have same that of the semi-annular ribs (13) of the first and second reinforcing bars, and

outer surface of said base sleeve formed multiple of semi-annular ribs and longitudinal ribs same shape as the semi-annular ribs and longitudinal ribs of the first and second reinforcing bars at column 3, lines 40-49.

With respect to claim 26, Kim teaches a reinforcing bar coupler wherein an overall length of said base sleeve (2) is a half interval of the semi-annular ribs shorter than that of said cover sleeve at column 4, lines 30-33 and lines 39-41. Kim teaches a set of serrations formed at one end portion of the flat top surface (34) of the cover sleeve at column 4, lines 46-47. Kim teaches said wedge (4) forming a flat bottom surface (41) for contacting with said flat top surface (34) of the cover sleeve at column 4, lines 59-61. Kim teaches a set of serrations formed at one end portion of the flat bottom surface (42) of said wedge at column 4, lines 63-65. Kim teaches more than one groove (45) formed on said flat bottom surface along with axial direction, and a scale formed at outer surface at column 5, lines 4-8.

With respect to claim 27, Kim teaches a reinforcing bar coupler wherein an interval of the semi-annular grooves and semi-cylindrical ridges (21) of the base sleeve and the cover sleeve is a half that of the semi-annular ribs (13) of the reinforcing bars at column 3, lines 53-58.

11. Claims 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent # 6,860,672) in view of Kunoki as applied to claim 23 above, and further in view of Harris (U.S. Patent # 3,701,555).

Kunoki teaches a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate at column 5, lines 50-55.

Kim in view of Kunoki does not teach said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance. Harris teaches said locking parts of the base sleeve (21) are bent to have a clearance (24) slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance at column 2, lines 30-39. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance as taught by Harris in order to secure elongate members to one another in axially aligned relationship.

Kim in view of Kunoki does not teach said locking sections of the wedge formed laterally bent-up and gradually decreased its height along with the axial direction, a striking head formed at the higher end and a scale formed on the outer surface. Harris teaches said locking sections of the wedge formed laterally bent-up (25,26) and gradually decreased its height along with the axial direction, a striking head formed at the higher end and a scale formed on the outer surface at column 2, lines 40-45 and column 3, lines 50-58. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking

sections of the wedge for tightly press-fitting to the clearance as taught by Harris in order to secure elongate members to one another in axially aligned relationship.

12. Claims 29, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (U.S. Patent # 3,701,555) in view of Kunoki (U.S Patent # 5,127,763).

With respect to claim 29, Harris teaches a first and second reinforcing bar (B1, B2) including a plurality of semi-annular ribs and longitudinal ribs in Figure 1, B1 and B2.

Harris does not teach a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt. Kunoki teaches a base sleeve (joint) forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt in Figure 2A. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include a base sleeve forming a semi-cylindrical shaped dual cavity with a lateral opening along with axial direction for seating the first and second reinforcing bar laid in butt as taught by Kunoki in order to increase the shear strength of the joint.

Harris teaches an inner surface of said base sleeve forming a plurality of semi-annular grooves for fitting the semi-annular ribs and semi-cylindrical ridges for seating the first and second reinforcing bar at column 5, lines 16-22. Harris discloses a pair of locking parts (51,52) along both edges of lateral walls at column 4, lines 30-39.

Harris teaches a wedge (25,26) having gradually decreasing thickness along with the axial direction, and a pair of locking sections along with both edges for firmly coupling the first and second reinforcing bar as axially slide advancing into said base sleeve at column 6, lines 1-11.

With respect to claim 30, Harris does not teach a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate. Kunoki teaches a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate at column 5, lines 50-55. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris to include a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate as taught by Kunoki in order to provide durable and reliable use.

Harris teaches said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance at column 2, lines 30-32.

Harris teaches said locking sections of the wedge formed laterally bent-up (25,26) and gradually decreased its height along with the axial direction, a striking head formed at the higher end and a scale formed on the outer surface at column 2, lines 37-45.

With respect to claim 32, Harris teaches a reinforcing bar coupler wherein said locking parts of the base sleeve are integrally formed a right-triangle shaped edge with outwardly slanted surfaces at both edges of the lateral walls at column 2, lines 32-35. Harris teaches said locking sections of the wedge are integrally formed a U-shaped hook with inwardly slanted surfaces, both slanted surfaces have in same slope for smoothly mating each other and firmly press bonding the first and second reinforcing bars, a bottom surface of the wedge formed a serration, and a scale formed on the outer surface at column 2, lines 45-53.

13. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harris (U.S. Patent # 3,701,555) in view of Kunoki as applied to claim 29 above, and further in view of Kim (U.S. Patent # 6,860,672).

With respect to claim 31, Harris in view of Kunoki does not teach a reinforcing bar coupler wherein the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert, and a scale on the outer surface. Kim discloses a reinforcing bar coupler wherein the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front end and a striking head at the thicker rear end for striking to insert, and a scale on the outer surface at column 4, lines 62-67 and column 5, lines 1-2. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Harris in view of Kunoki to include a reinforcing bar coupler wherein the wedge forms a flat bottom surface with a serration, a chamfered edge at a thinner front

end and a striking head at the thicker rear end for striking to insert, and a scale on the outer surface as taught by Harris in order to prevent the wedge from sliding between the sleeve.

14. Claims 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. Patent # 6,860,672) in view of Kunoki and further in view of Harris (U.S. Patent # 3,701,555).

Kunoki teaches a reinforcing bar coupler wherein the base sleeve and the wedge are produced through elastic process with a uniform thickness of steel plate at column 5, lines 50-55.

Kim in view of Kunoki does not teach said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance. Harris teaches said locking parts of the base sleeve (21) are bent to have a clearance (24) slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance at column 2, lines 30-39. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance as taught by Harris in order to secure elongate members to one another in axially aligned relationship.

Kim in view of Kunoki does not teach said locking sections of the wedge formed laterally bent-up and gradually decreased its height along with the axial direction, a striking head formed at the higher end and a scale formed on the outer surface. Harris teaches said locking sections of the wedge formed laterally bent-up (25,26) and gradually decreased its height along with the axial direction, a striking head formed at the higher end and a scale formed on the outer surface at column 2, lines 40-45 and column 3, lines 50-58. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim to include said locking parts of the base sleeve are bent to have a clearance slightly less than a thickness of said locking sections of the wedge for tightly press-fitting to the clearance as taught by Harris in order to secure elongate members to one another in axially aligned relationship.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Howlett (U.S. Patent # 4,146,951) teaches a method and apparatus for tensioning concrete reinforcing tendons, Holdsworth (U.S. Patent # 5,909,980) teaches a tubular coupler for concrete reinforcing bars, Baynes et al. (U.S. Patent # 5,797,696) teaches snap connection system, Harris (U.S. Patent # 3,480,309) teaches clamp, West (U.S. Patent # 2,441,304) teaches cable clamp, Era (U.S. Patent # 4,695,178) teaches joint reinforcing bar employed in concrete construction, Gregel et al.

(U.S. Patent # 7,118,299B2) teaches reinforcing bar connection and method, and Kunoki (U.S. Patent # 4,997,306) teaches joint for reinforcing bars.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher J. Darner whose telephone number is 571-270-3658. The examiner can normally be reached on Monday thru Friday 8AM to 4:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David V. Bruce can be reached on 571-272-2487. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

cd

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SUPERVISORY PATENT EXAMINER